Site 60 Stilts Pond

Overview: The Stilts Pond potential restoration site is located in southern Newbury, approximately 0.25 mi south of the MBTA rail line crossing over the Parker River. The site lies just to the west of Old Rowley Road with the western edge abutting the rail right-of-way. The potential restoration site encompasses approximately 3 ac of primarily unvegetated shallow pannes and low marsh within the upper reaches of an extensive salt marsh system along the Parker River. This lobe of tidal wetlands is confined by the railroad to the west and low density residential development to the east. The northern limit of a capped landfill lies approximately 500 ft to the south. However, there are no known water quality issues. Limited tidal exchange to the area is conveyed via an unmaintained ditch which runs north approximately 0.25 mi to the Parker River, parallel to the railroad. There are no cross culverts under the railroad in this location. Prior to construction of the railroad, tidal exchange likely extended in a westerly direction under the railroad. The railroad is shown on the 1894 USGS Newburyport-Exeter, NH-MA Quadrangle map. The lack of tidal exchange (primarily poor drainage from the site) has resulted in the creation of large salt pannes and low marsh dominated by short form S. alterniflora. There are limited fringing populations of Phragmites.

Approximately two thirds of the potential restoration site is held in conservation by the ECGA as a small (10 ac) disjunct parcel. No management is practiced by the ECGA on the site (D. Rimmer ECBA, pers. comm.). The holding is separated by approximately 900 ft from a MassWildlife holding which is closer to the Parker River. The remaining area within the site is privately held.

Structure conditions: There are no structures associated with this potential restoration site.

Ecological Integrity: The potential restoration site generally has a medium level of ecological integrity. Approximately two thirds of the site is held in conservation by the ECGA. The area is contained within the Parker River/Essex Bay ACEC and BioMap Core Habitat. The surrounding forest lands are mapped as Supporting Natural Landscape. Surrounding land uses are undeveloped forest lands and low density residential development which appears to be expanding in the area. The western edge of the potential restoration site is defined by the MBTA rail line. With the exception of several narrow fringing stands of Phragmites, the marsh plain transitions abruptly to forested uplands. The forested edges around the panne enhance the avian habitat quality, as birds are able to perch and/or roost adjacent to the panne. A relatively large number of snowy egrets were observed during the site investigation.

Historic aerial photography beginning in the early 1950's clearly depicts a progression from vegetated salt marsh to impounded shallow open water. However, there currently appears to be somewhat more vegetated surface than shown in the 2001 aerial photography. The impounded conditions are the result of unmaintained ditching along the rail line to the Parker River. The main ditch along with laterals are overgrown with S. alterniflora. Nearly all the vegetated portions of the marsh are dominated by short-form S. alterniflora with saturated peat conditions. The natural accumulation of wrack within this upper reach of the marsh contributes to the large panne development and obstructed drainage. Biological bench mark data indicates the areas of low marsh are similar in elevation to high marsh within better drained portions of the marsh closer to the Parker River. The panne areas are typically shallow (less than 6 in) and uniform in depth. At the time of inspection, the pannes supported a large forage fish population. However, the shallow depth may limit refuge areas for fish populations to control mosquito populations.

The construction of the rail line in the early 1900's altered the natural drainage patterns within the portion of the marsh and created a more confined flow path more prone to impounding conditions.

The Parker River just downstream of the potential restoration site is mapped as suitable habitat for American and European oyster and soft-shelled clam.

The overall severity of the existing impairments is considered moderate in comparison to conditions which existed prior to the impounding of tidal flow. A reduction in the level of impounding conditions with the maintenance of the existing ditching would increase the amount of vegetated surface on the potential restoration site, allowing short-form S. alterniflora to colonize unvegetated zones and increase the cover of high marsh. Increased tidal exchange would limit the expansion of the small fringing populations of Phragmites. No impacts to other habitat types or nearby residential properties would be anticipated. Alternatively (or in combination), OMWM techniques could be used to enhance refuge habitat for fish populations by creating a centralized and accessible lower depression within the panne to support a more permanent open water area during prolonged dry periods. The Mosquito Management District is currently not aware of mosquito problems within the site and does not treat the area (W. Montgomery, Superintendent, NE MA MWMD).

Socioeconomic: Although the site would be excellent for wildlife viewing based on available habitat, recreational values are low as no access is currently available or planned. Educational opportunities are limited as there is no known ongoing research, nearby schools, or available access. The potential restoration site's Uniqueness/Heritage value is enhanced by its inclusion within the Parker River/Essex Bay ACEC. The area does not include any known cultural resource elements or urban setting values.

Construction Logistics/Feasibility: The feasibility of restoration actions at the site is enhanced by the level of work necessary to return the site to conditions which existed prior to the impounding of tidal exchange. This action would be limited to the maintenance of approximately 0.5 mi of obstructed ditches. Construction access adjacent to the potential restoration site is difficult; however the area can be accessed off Old Rowley Road to the east. Aside from limited access and the amount of ditch maintenance required, there are no major factors present which would escalate costs over a typical ditching operation. As a result, overall costs for ditch maintenance and additional management elsewhere within the pannes is estimated to be in the range of $75,000. The level of local support is unknown at this time.

Restoration Potential: The site is considered to have moderate restoration potential based primarily on the relatively low costs to relieve the impounding conditions, conservation status and inclusion within the Parker River/Essex Bay ACEC. The value of most socioeconomic factors are negatively influenced by the lack of access. In comparison to conditions which existed prior to impounding of tidal exchange, the potential restoration site currently has a medium level of ecological integrity. Further studies should be conducted to determine if the current conditions are resulting in high mosquito breeding or poor water quality. This data along with input from the Mosquito Management District, the ECGA, other abutting property owners and municipal officials are necessary to reach consensus on the necessity and scope of restoration actions.

Site # 060 | Site Features | Scale: 1:3,000

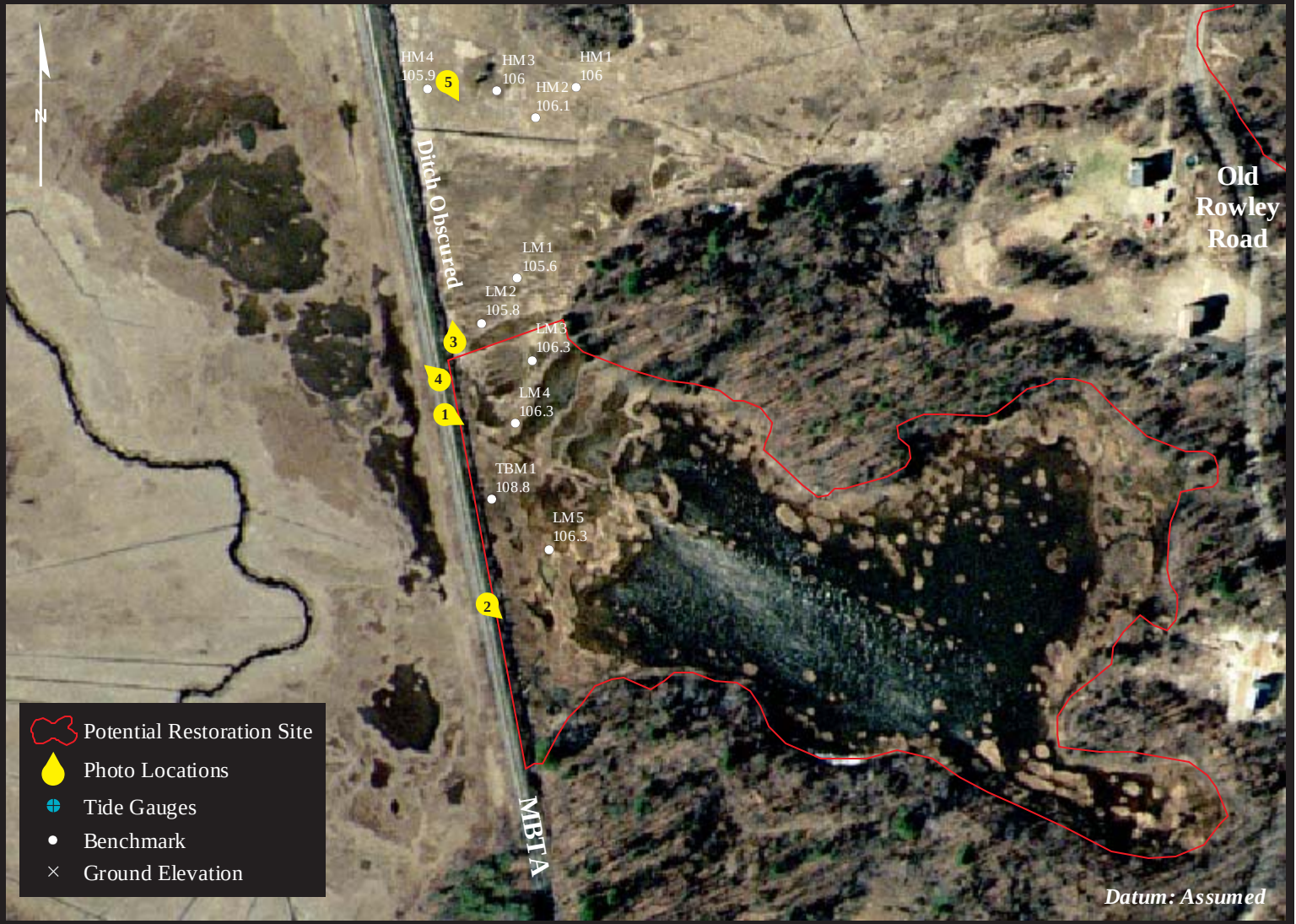

Photo 1 - Overview of Restoration Area Viewing Southeast

Photo 2 - Accumulated Wrack within Southwestern Corner of Site

Photo 3 - Location of Former Ditch Flowing North to Parker River

Photo 4 - View of Large Salt Pannes West of Railroad Line

Photo 5 - Healthy High Marsh Downstream of Restoration Area

Great Marsh Coastal Wetlands Restoration Planning
Rapid Field Assessment

Site # 60
Stilts Pond

Site Information

Site ID:	60
Site Name:	Stilts Pond
Municipality	Newbury
Location:	Between MBTA rail line and Old Rowly Road, 0.25 mi south of MBTA rail crossing over Parker River
Adjacent Waterbody:	Parker River

Affected Area (Acres)

Mudflat/Open Water:	0	Total Area:	13
Salt Marsh:	13		
Other Wetland:	0	*Other Description:*	
Other:	0		

Impairment(s)

Tidal Restriction	☑	Fill	☐
Obstructed Ditche(s)	☑	Invasive Species	☑
Impoundment	☑	Pollution / Siltation	☐

Severity of Impairments: Moderate

Project Type

Roadway Culvert(s)	☐	Obstructed Ditches	☑
Bridge	☐	Fill	☐
Berm	☐	Other	

Evidence of Restriction

Gauge Data	☐	Impounded Flow	☑
Downstream Scour Pool	☐	Obstructed Flow	☑
Upstream Scour Pool	☐	Invasive Species	☑
Bank Erosion	☐	Ponded Conditions	☑
Slumping	☐	Subsidence	☐

Structure / Channel:

Overall Condition:	
Life Expectancy (Years):	
Road Condition:	
Structure Type:	
Structure Age (Years)	
Structure 1 Width (Feet):	
Structure 1 Length (Feet):	
Structure 2 Width (Feet):	
Structure 2 Length (Feet):	
Skew (Degrees):	
Cover (Feet):	
Scour Protectection:	☐
Adequately Aligned:	☐
Headwall Type:	
Headwalll Condition:	

Ecological Integrity / Habitat Value

Surrounding Land Use %

Commercial / Industrial	0
Residential	60
Agricultural	0
Undeveloped	40

Severity of Impairment(s)	Moderate
Invasive Plant Cover:	Low
Extent of Wooded Buffer:	Fair
Habitat Connectivity:	Fair
NHESP Estimated Habitats of Rare Wildlife:	☐
NHESP Priority Habitats of Rare Species:	☐
NHESP BioMap Core Habitat:	☑
NHESP BioMap Supporting Natural Landscape:	☑
ACEC:	☑
Anadromous Fish:	☐
Shellfishing Suitability:	☑
Barriers to Fish Passage	Minimal

Great Marsh Coastal Wetlands Restoration Planning
Rapid Field Assessment

Site # 60
Stilts Pond

Construction Logistics / Feasibility

Traffic Volume	None
Detour Potential	☐
Site Access	Poor
Staging Areas	☑
Fill Material Concern	Minimal
Low Lying Property Concerns	None
Overhead Utility Constraint	None

Underground Utilities

Water	☐	*Telephone*	☐
Gas	☐	*Sewer*	☐
Electric	☐	*Drainage*	☐

Permitting Complexity	Low
Local Support	Unknown
Feasibility Cost	10,000
Design Cost	10,000
Permitting Cost	5,000
Construction Cost	75,000
Total Cost	100,000
Relative Cost/Acre	8,000

Socioeconomic

Recreation

Public Access:	☐
Watercraft / Portage:	☐
Wildlife Viewing:	☑

Education

Schools Nearby:	☐
Ongoing Research:	☐
Education / Outreach Potential:	Low
Saftey Concerns (Access):	Medium

Uniqueness / Heritage Value

Rare Species Habitat:	☐
ACEC:	☑
Cultural Resource Features	☐
Urban Viewscape Value:	None
Urban Habitat Value:	None

Tide Surveys

	Start:		*Finish:*
Dates of 1st Survey:		-	
Date of Highest Tide:			
Max Measured Tidal Dampening:			
Percent of Tidal Prism:			
Measured Delay:			

	Start:		*Finish:*
Dates of 2nd Survey:		-	
Date of Highest Tide:			
Max Measured Tidal Dampening:			
Percent of Tidal Prism:			
Measured Delay:			

Summary

Uniqueness / Heritage Value:	Medium	Ecological Integrity:	Medium
Recreational Value:	Low	Logistics / Feasibility:	Medium
Educational Value:	Low		

Restoration Potential: Moderate